

December 17, 1990

Hole Persists Beyond Previous Years

South Pole Ozone Returning to Normal

The ozone hole over the South Pole, which in previous years has significantly filled in by the end of November, persisted well into December this year but is now disappearing, NOAA balloon soundings show.

Soundings obtained on December 6 indicated a total column ozone reading of 220 Dobson units, well below the 280 Dobson unit measurement for the same date in 1987, the year when the most severe ozone deterioration was measured. Earlier this week, on December 10, ozone readings had risen to 270 D.U.s.

Record Low in 1987

In 1987, ozone concentration over the South Pole reached a record low reading of slightly less than 130 D.U.s. in early October. The low reading for this year, also in early October, was 130 D.U.s.

The hole has stayed open because of an atmospheric vortex of stratospheric winds

which usually builds up in the Antarctic from September through November, but is continuing through December this year. These winds prevent ozone from the mid-latitudes from flowing to the South Pole.

The South Pole is now experiencing sunlight 24 hours a day. This tends to warm up the atmosphere to the point where ozone destruction is halted until the next austral spring (fall in the northern hemisphere) when the entire process repeats itself.

NOAA Leads in New Optical Data Storage Techniques

Most of NOAA's divisions have massive amounts of data to store. New computer data storage technologies such as CD-ROM (compact disk-read only memory) optical disks have put NOAA on the cutting edge of this growing field.

NOAA's National Oceanographic Data Center has just installed an advanced, high-density CD-ROM optical disk autochanger, with an online capacity of 300 gigabytes of data. In practical terms, that's the same as 800,000 standard computer floppy disks.

Jukebox CD Changer

The autochanger, nicknamed "the jukebox," works like the newer breed of compact disk players for music, which can handle upwards of five disks at a time, and shuffle among them. The autochanger

is designed to make satellite images and related data more accessible to NOAA's Coast-Watch program and large numbers of global change researchers. NOAA satellite data on thousands of existing magnetic computer tapes are being transferred to this advanced technology.

One Disk=250,000 Pages

Also, NOAA's National Climatic Data Center (NCDC) has just issued a disk containing climatological summaries for over 5,000 locations worldwide, including 40 in the Middle East. Talk about paperwork reduction—the single CD-ROM disk replaces 250,000 pages of printed text, which would weigh about 3,000 pounds. The disk, *International Station Meteorological Climate Summary*, provides information concerning surface air temperature, humidity, winds and

precipitation at the sites. It's available from NCDC for the minimal cost of reproduction and distribution.

NOAA GC Negotiates \$156,000 Oil Spill Pact

The owners of three barges and two vessels involved in an accident that spilled an estimated 700,000 gallons of heavy fuel oil into Galveston Bay last July have agreed to provide more than \$156,000 to NOAA, the Interior Department and Texas Water Commission to assess the damage the oil may have caused.

The settlement is the first step in a process aimed ultimately at restoring any natural resources harmed by the spill.

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N.C. Uses Satellite Images to Close Turtle Strandings:

Satellite-derived sea surface temperatures from NOAA Coastwatch computer systems were instrumental in the decision by the state of North Carolina in suspending the fishing trawling season along the Hatteras Bight earlier this month. Since November 29, about 70 sea turtles, including 16 endangered Kemp's ridleys, have washed ashore along the beaches of Cape Hatteras National Seashore, and trawling activity appears to be responsible for the strandings. The N.C. Division of Marine Fisheries is using NOAA polar-orbiter imagery to track the coastal water temperature daily to determine when the season can resume.

Shrimp Big in Texas: A record-breaking harvest of white shrimp, the beginnings of a promising new Texas aquaculture industry, is an outgrowth of joint effort by

the NOAA-sponsored Texas Sea Grant Program and the Texas General Land Office. The industry set a state record for fish farm shrimp production with its first harvest of 6,500 per acre.

Comings and Goings:

Scientists from the U.S. Antarctic Marine Living Resources program set sail for Punta Arenas, Chile, aboard the NOAA Corps vessel *Surveyor*

Pacific dolphins. In previous cruises, scientists covered about 45,000 miles and sighted more than 1,000 marine mammal schools. The *Jordan* also aided the Coast Guard in retrieving a ton of cocaine found floating off Central America.

NOAA Chief Named Fellow: Michael Fraser, NOAA's chief of Information Resource Management Policy and Planning for the National Marine Fisheries Service,

has been named a Council for Excellence in Government fellow. The fellowship, sponsored by a grant from the Henry M. Jackson Foundation, is designed to enhance the leadership and managerial skills of top performing public servants through close interaction with successful leaders from major corporations and other government departments.

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last week, to begin a three month field season off Antarctica. The scientists will monitor seal and penguin populations, map the distributions and concentrations of krill and microscopic algae, and study ocean conditions.

Meanwhile, the NOAA ships *David Starr Jordan* and *McArthur* returned to San Diego after completing the fifth of six planned cruises to monitor trends of eastern

NOAA Tide Predictions Aids 'Shield' Effort

NOAA continues play a major part in Operation Desert Shield, the U.S. deployment of troops in Saudi Arabia. The Estuarine and Ocean Physics Branch of NOAA's National Ocean Service has prepared and sent 1991 tide predictions for the Persian Gulf region to the Chief of Naval Operations, and to several Naval and Air Force units supporting sea and air-lift operations.

Charting & Geodetic Printed Maps

Other NOAA branches have also assisted in Operation Desert Shield. Under the auspices of the Defense Mapping Agency, NOAA's Charting and Geodetic Services printed maps and charts needed for the effort. Also, NOAA has just issued a CD-ROM optical computer disk containing climatological summaries for over 5,000 locations worldwide, including 40 in the Middle East. (See related story, page 1.)

NOAA General Counsel Wins \$156K Agreement

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The money will be used in part to determine what toxic effects the oil may have had on young shrimp in the area. Researchers will also develop a restoration plan for damaged marshes and carry out tests to identify the spilled oil through a chemical "fingerprinting" process.

National Oceanic and Atmospheric Administration

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